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Development of the Cash Flow Margin 2009 Determined by the Economic Crisis

Cash Flow and Equity Ratio of the Austrian Manufacturing Sector

In 2008, the cash-flow-to-sales ratio in the Austrian manufacturing sector was still stable at 11.2 percent. However, in 2009, the global crisis affected Austrian manufacturing considerably leading to a decline of 11.7 percent of value added. This affected the development of the earning power considerably: according to the estimates using a dynamic panel econometric model for 22 industries of the manufacturing sector, the cash-flow-to-sales ratio decreased to 7.5 percent. Since the manufacturing earnings grew until mid-2008, the equity ratio was stable at 36.4 percent in 2008, corresponding to the European average. Despite the considerable drop of the cash-flow ratio the equity structure has probably remained largely stable.

The global economic crisis and the associated decline in world trade affected in Austria mainly the manufacturing sector. Following the slump in exports production in the manufacturing sector shrank by 11.7 percent as compared to the preceding year, and employment decreased by approximately 6 percent. Overall, hourly labour productivity declined, due to cyclical situation, by 2.3 percent.
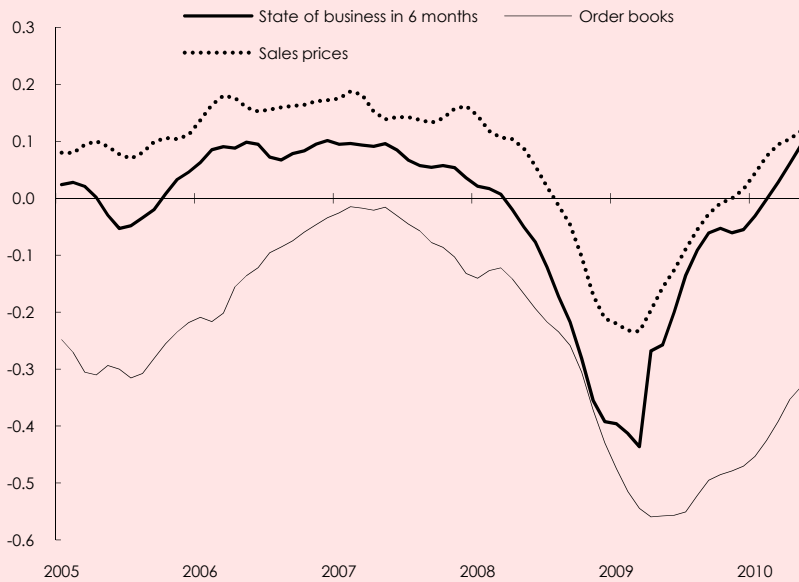
In mid-2008, the WIFO business cycle survey for the first time showed a deterioration of the economic indicators for the Austrian manufacturing sector, which became considerably more pronounced by mid-2009 (Figure 1). Production expectations and the assessment of the business climate in the next six months heralded, already in the second quarter 2009, a change of direction. Order stocks and foreign orders, however, stabilised only as from the third and fourth quarters 2009. The business cycle confidence indicator of the European Commission (Figure 2) shows similar trend, both for the EU 15 and for Germany. In the meantime, the business cycle has stabilised again. The enterprises expect stabilisation on a low level. This is also reflected in the findings of the WIFO investment survey: the Austrian manufacturing sector curtailed its gross fixed investments 2009 nominally by 24 percent. That was the most significant drop since the investment test was introduced in 1963 (*Falk – Kunnert – Schwarz,* 2010). In 2010, the companies want to invest considerably less than in the preceding year (nominally −6.7 percent). Therefore, a cautious real growth of 4.2 percent of production in the manufacturing sector is expected for 2010 (*Marterbauer,* 2010).

The sharp slump of the international trade caused a decline of the prices of raw materials by more than 20 percent, after price dynamics had stabilised in 2008. The European Central Bank reacted to the crisis of the financial markets 2009 with a considerable reduction of the interest rates. Thus the interest terms for company loans became more favourable. At the same time, however, the banks raised the risk spreads within the expected scope. All in all, credit conditions are approximately on par with those of 2003, and the spreads for short-term company loans are similar to those of 2006 (*Hölzl,* 2009). The real-effective exchange rate index changed only insignificantly (+0.4 percent). The euro was still relatively strong in 2009. The decline of

the exports of the Austrian manufacturing sector (−20.7 percent) is clearly reflected in the cyclical increase of the unit labour costs (+9.7 percent). This probably brought down the profits of the companies in 2009 to a considerable extent.
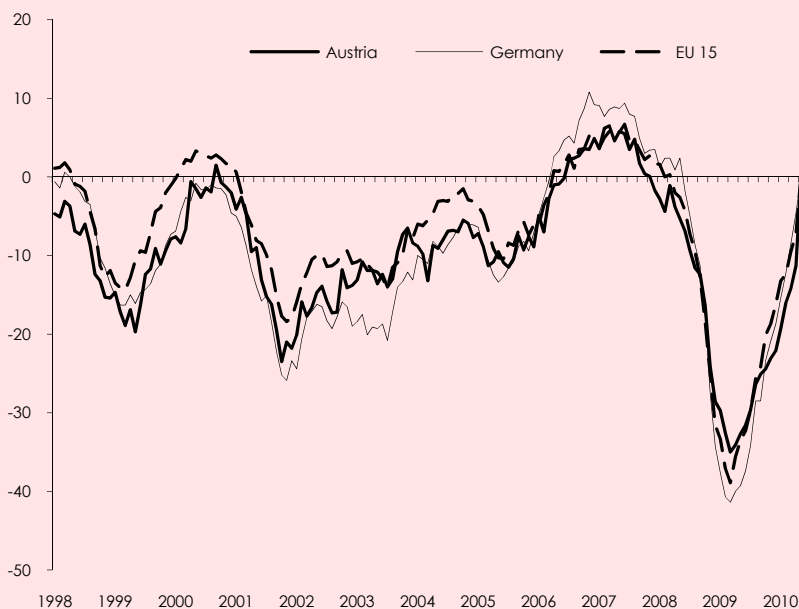
Figure 1: Assessment of the economic situation of companies in the manufacturing sector

Balance of positive and negative assessments as a percentage of total responses

Source: WIFO Business Cycle Survey.

Figure 2: Industrial confidence indicators

Source: European Commission, DG Economic and Financial Affairs, Business and Consumer Surveys.

Unfortunately, there are no early profitability indicators. For this reason, the development of the cash-flow ratio for 2009 needs to be forecasted. The forecast is based on data from the BACH database ("Bank for Accounts of Companies Harmonized"), which provides harmonised data for the evaluation of aggregated balance sheet data of European companies at the country level. Although the data are harmo-

nised, they qualify for comparison only with some reservation. The Austrian data are provided by the Oesterreichischen Nationalbank (Balance Statistics by the Oesterreichischen Nationalbank), supplemented by information for smaller enterprises from the balance data compiled by the Austrian Institute for SME Research.

Table 1: Cost developments in manufacturing

	Industrial commodity prices, euro basis		Unit labour costs		Interest rate for company loans in percent	Real-effective exchange rate index	
	1990 = 100	Change from previous year in percent	2000 = 100	Change from previous year in percent		First quarter 1999 = 100	Change from previous year in percent
1990	100.0	.	96.7	+ 1.4	.	.	.
1991	91.4	− 8.6	101.6	+ 5.0	.	.	.
1992	82.4	− 9.8	107.9	+ 6.2	.	.	.
1993	74.9	− 9.2	115.9	+ 7.4	.	104.5	.
1994	85.7	+ 14.5	114.7	− 1.1	.	104.4	− 0.1
1995	90.8	+ 5.9	113.9	− 0.6	.	107.5	+ 3.0
1996	84.5	− 6.9	110.7	− 2.8	6.6	103.9	− 3.4
1997	96.0	+ 13.6	104.5	− 5.6	6.1	99.2	− 4.6
1998	83.5	− 13.1	105.0	+ 0.5	5.7	99.5	+ 0.3
1999	85.0	+ 1.9	103.7	− 1.2	4.8	98.1	− 1.4
2000	105.8	+ 24.4	100.0	− 3.6	6.3	94.1	− 4.1
2001	98.7	− 6.7	101.1	+ 1.1	6.3	93.9	− 0.2
2002	91.2	− 7.6	102.3	+ 1.2	5.2	94.4	+ 0.5
2003	88.6	− 2.9	103.3	+ 0.9	4.2	97.5	+ 3.3
2004	100.7	+ 13.6	101.5	− 1.7	3.6	98.5	+ 1.0
2005	115.3	+ 14.5	100.8	− 0.7	3.5	97.5	− 1.0
2006	151.2	+ 31.1	96.5	− 4.2	4.1	97.0	− 0.5
2007	160.1	+ 5.9	94.9	− 1.7	5.1	97.7	+ 0.7
2008	156.1	− 2.5	95.9	+ 1.0	5.5	98.3	+ 0.6
2009	122.6	− 21.5	105.2	+ 9.7	2.8	98.7	+ 0.4

Source: WIFO, OeNB, HWWA.

The data for the cash-flow-to-sales ratio are available in the breakdown by industries according to the Statistical Classification of Economic Activities in the European Community (NACE rev. 2-digit). Following the reorganisation of NACE rev. 1.1 to NACE rev. 2 the forecast is based on shorter time series than in the preceding years, as key figures were only calculated back to the year 2000. For some industries no data are available, so that, for the econometric assessments, only 22 out of the 24 industries could be included[1]. The econometric estimate is based on data of the period from 2000 to 2008.

Estimates for the year 2009 show a considerable decline of the cash-flow-to-sales ratio in the Austrian manufacturing sector.

Table 2: Estimated coefficients for the projection of the cash-flow-to-sales ratio

	$\log \Pi_{t-1}$	I_{it}	I_{it-1}	I_t^{EU}	R_t
β	0.51	0.138	− 0.022	0.016	− 0.001
z value	6.5**	2.71**	− 0.44	2.87**	− 1.40
$NT = 154$					
R^2	0.71				

Bias correction according to *Bruno* (2003), *Bun – Kiviet* (2003), *Kiviet* (1995) calculation of the standard deviation by bootstrapping (1,000 replications). Fixed sectoral effects are not shown. $\log \Pi_{t-1}$ sector-specific cash-flow ratio (logarithmised, deferred by one period), I_t ... synthetic economic indicator broken down by sectors, I_t^{EU} ... EU economic indicator, R_t ... raw materials price index, ** ... significant on a 1 percent level, * ... significant on a 5 percent level.

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[1] No data provided for the manufacture of tobacco products or for manufacture of coke and refined petroleum products.

Data and definitions

The cash-flow ratio is an indicator of a company's capacity *to finance investment* or *distribute profits* out of revenues from its sales. It mirrors the *self-financing capacity* of a company. Of similar interest is a comparison of firms' equity capitalisation. The latter is of importance beyond the pure liability element, notably with a view to its effect on confidence with clients and suppliers regarding the company's future liquidity as well as its autonomy in carrying out risky financial operations.

The *cash flow* of a company corresponds to the surplus of revenues over expenditure generated within a period through its own business operations. As different from *external financing* (via equity capital, debt capital or subsidies) or asset transformation (asset sales, depletion of inventories etc.) as another form of internal financing, *self-financing* in the wider sense consists of three components: retained *earnings* (self-financing in the narrow sense), the "earned" counter value of depreciation and of financial reserves for potential *liabilities* vis-à-vis third parties (*Schäfer*, 1998).

The cash-flow-to-sales ratio is measured by the share of cash flow in sales revenues. For this purpose, the cash flow is defined as follows:

    Result from ordinary business operations
+   normal depreciation of fixed assets
+   depreciation of financial assets and securities of current assets
[±   allocation to or liquidation of reserves]
[±   allocation to or liquidation of social capital]
=   Cash flow

The equity capital ratio as a measure of financial independence vis-à-vis third parties is obtained as the share of equity capital in the balance sheet total. The equity capital includes both the equity capital on the balance sheet and financial reserves before tax. The balance sheet total is composed of fixed capital, current capital and accruals/deferrals.

The BACH Database

The BACH database (Bank for Accounts of Companies Harmonized) has been established since 1987 by the European Commission (DG ECFIN) in co-operation with the European Committee of Central Balance Sheet Offices, in order to facilitate international comparisons between the EU member states, Japan and the USA. At present, aggregated data on corporate annual financial statements are available in the following breakdown:

• *11 countries:* Austria, Belgium, Spain, France, Germany, Italy, the Netherlands, Portugal, Poland, Japan, and the USA,

• 87 industries according to NACE rev. 2 (2-digit), of which 24 for manufacturing,

• *3 size brackets:* enterprises with annual sales of below € 10 million, between € 10 to 50 million, and above € 50 million.

The aggregated cash-flow ratio heralded the onset of the economic recession as early as in 2008. The weighted average of the 22 industries analysed (11.2 percent) was equivalent to the average of the period 2000 to 2008, after the high values of 2006 and 2007. For 2009 the estimates using the dynamic panel econometric model (see box "A panel-econometric model for cash flow projections") indicate a considerable drop of the cash-flow ratio to 7.5 percent. This is one third lower than in 2008 (–3.7 percentage points as compared to 2008). This considerable decline mirrors the massive deterioration of the economic situation in the year 2009 (Table 3).

The decline of the cash-flow ratio seems to be present in almost all industries. The forecast shows a sharp decline, mainly for the manufacture of leather and related products (–6.6 percentage points), manufacture of basic metals (–6.5 percentage points), manufacture of other non-metallic mineral products (–5.9 percentage points)[2]. The diverse earnings performances of the individual industries enter the es-

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[2] The results of the estimates for the individual sectors are to be interpreted more cautiously than the aggregated estimate.

timation process via the synthetic cyclical indicator, and not by different coefficients. Thus the heterogeneity of responses can only be uncovered to a limited extent.

A panel-econometric model for cash flow projections

The projections for cash flow trends at the industry level use a panel-econometric approach. Despite rather short time series, the pooling of sectoral data allows a reliable econometric estimate to be made for the cash-flow ratio for 2009. The specification follows the industrial economics literature and assumes that the cash profitability and thereby also the self-financing power of companies exhibit differences persistent over time (*Mueller*, 1990, *Aiginger – Pfaffermayr*, 1997, *Peneder – Pfaffermayr*, 2003). Allowance is made for this assumption by introducing fixed industry-specific effects. The econometric model also includes the cash-flow ratio lagged by one period in order to illustrate the partial adjustment to external shocks.

Further explanatory variables are synthetic business cycle indicators (I_{it}, I_{it-1}) on the basis of companies' judgement of business conditions as sampled by the WIFO business survey. In addition, the EU-wide synthetic business cycle indicator orthogonalised to the WIFO business cycle indicators (I_t^{EU}), the index of industrial commodity prices, R_t, were used for forecasting purposes. Further structural data for the explanation of the cash-flow ratio are not available. Additional structural data for the explanation of the cash-flow ratio are not available. The synthetic cyclical indicator is derived from the annual averages of the balance between optimistic and pessimistic responses (as percent of all responses) with regard to current order books (AB), the business outlook for the next six months (GL) and the development of prices (PR) using the following formula (*Oppenländer*, 1996):

$$I = \left[(AB + 2)(GL + 2)(PR + 2) \right]^{1/3} - 2 ,$$

The series of these balances of responses are closely correlated with the trend of the cash-flow-to-sales ratio and with manufacturing output. However, they also mirror non-observed structural differences and different developments in production costs between industries. For projection purposes, this indicator should exhibit a sufficient lead in time. The correction by 2 ensures that the value of the term in square brackets is always positive.

In algebraic terms, the econometric forecasting model is specified as follows:

$$\log \pi_{it} = \beta_1 \log \pi_{it-1} + \beta_2 \, I_{it} + \beta_2 \, I_{it-1} + \beta_3 \, I_t^{EU} + \beta_4 \, R_t + \beta_0 + \sum_{j=1}^{18} \gamma_j \, S_j + \varepsilon_{it} ,$$

$$\varepsilon_{it} \sim N\left(0, \sigma^2\right), \quad j = 1, ..., 5 .$$

The estimate of the dynamic panel model uses the *Kiviet* (1995) approach. In the present estimation, the average cash-flow ratio for the entire manufacturing sector is obtained as the weighted average of the industry-specific projections, the weights being the aggregated balance sheet total for each industry. Since these data are not available for 2009, aggregate sales according to the WIFO investment survey have been used as proxy weights; the weights have been assumed as deterministic.

The estimation results for the period from 2001 to 2008 are presented in Table 2. While the lagged business cycle indicator is insignificant, all other explanatory variables, including the fixed industry-specific effects, are shown to be statistically significant. The fact that the parameter of the cash-flow ratio lagged by one period is significant implies that exogenous influences on earnings developments, even of low persistence, have an echo-effect over several periods. Overall, the model exhibits an appropriate estimation quality (Figure 3); the high R^2 of 0.71 should not be overrated nevertheless, since it is largely determined by the fixed industry-specific effects.

Table 3: The cash-flow ratio in Austria by industries

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
					Cash flow as a percentage of sales					
Manufacture of food products	7.5	6.2	7.0	8.1	7.5	6.4	6.6	6.4	6.2	4.4
Manufacture of beverages	10.5	16.0	21.3	16.7	16.2	16.8	17.1	17.9	11.5	9.2
Manufacture of textiles	9.6	10.6	8.4	8.1	7.5	6.4	7.3	8.4	6.8	4.7
Manufacture of wearing apparel	3.4	1.9	2.8	3.6	6.3	3.1	3.6	5.4	4.4	2.7
Manufacture of leather and related products	9.9	6.3	2.4	3.6	5.5	10.8	11.5	14.8	12.7	6.0
Manufacture of wood and products of wood and cork, except furniture	8.3	11.2	7.9	7.0	8.4	7.5	9.4	9.7	9.7	6.1
Manufacture of paper and paper products	13.0	22.3	20.0	18.2	14.7	13.3	15.7	14.9	13.8	9.8
Printing and reproduction of recorded media	15.2	10.3	8.2	9.8	10.6	9.4	14.0	14.3	12.8	7.9
Manufacture of chemicals and chemical products	4.8	11.3	12.2	9.6	10.5	11.0	14.4	17.3	9.8	7.1
Manufacture of basic pharmaceutical products and pharmaceutical preparations	23.9	22.3	19.6	16.2	12.3	16.6	19.4	19.4	16.5	11.6
Manufacture of rubber and plastic products	10.5	10.6	11.1	10.5	11.1	11.1	9.4	10.3	9.9	6.5
Manufacture of other non-metallic mineral products	17.7	17.2	14.9	15.0	14.2	11.0	14.4	23.6	16.2	10.4
Manufacture of basic metals	14.4	15.5	10.0	11.0	11.6	12.2	12.4	16.7	15.4	8.8
Manufacture of fabricated metal products, except machinery and equipment	12.2	11.7	12.6	12.1	10.8	12.4	11.4	10.7	10.0	6.6
Manufacture of computer, electronic and optical products	65.8	27.7	24.1	19.0	17.5	19.1	16.8	17.7	14.7	9.7
Manufacture of electrical equipment	13.2	12.4	13.4	17.0	14.2	11.4	13.6	14.0	14.4	9.0
Manufacture of machinery and equipment n.e.c.	12.7	11.1	11.2	8.7	10.0	10.2	12.6	12.1	12.4	7.1
Manufacture of motor vehicles, trailers and semi-trailers	13.8	12.3	9.1	8.6	8.0	8.3	10.3	8.9	9.3	5.6
Manufacture of other transport equipment	5.9	10.9	10.8	8.0	6.7	-0.4	15.3	13.6	5.5	4.8
Manufacture of furniture	7.7	8.6	6.1	6.6	7.1	6.3	6.0	5.2	4.9	3.5
Other manufacturing	23.9	22.5	19.8	17.6	15.2	15.8	20.2	20.3	8.8	7.7
Repairs and installation of machinery and equipment	15.6	4.9	5.0	5.3	9.7	9.2	7.6	11.7	11.4	6.0
Manufacturing[1]	14.0	13.2	12.1	11.5	10.9	11.0	12.7	13.3	11.2	7.5

Source: Oesterreichische Nationalbank, WIFO calculations. 2009: forecast. – [1] Weighted average.

Figure 3: The cash-flow ratio in Austrian manufacturing
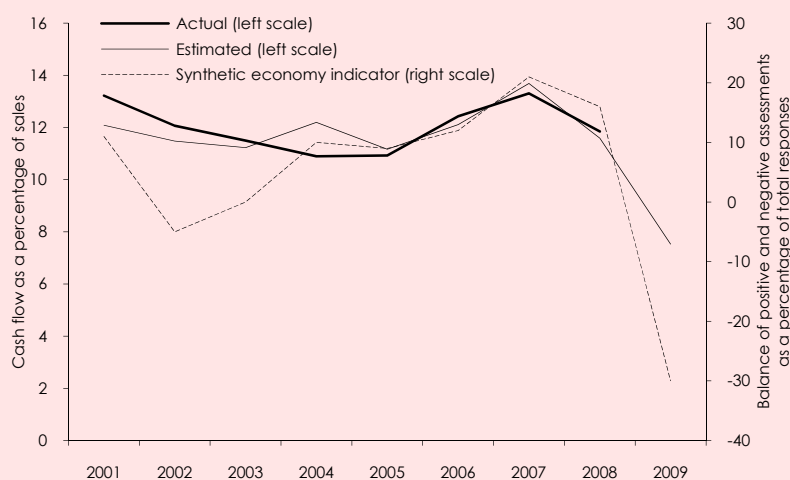
Source: BACH database, WIFO calculations.

The cash-flow ratio of the Austrian manufacturing sector in 2008 was, at 11.2 percent, the highest in Europe with the exception of the Netherlands (Table 4). The European average was 8.3 percent (not including the Netherlands). Over the last years, the cash-flow ratio in Austria developed more favourably than in the countries under comparison.

In most countries, the cash-flow ratio remained rather constant over the time, only fluctuating marginally against the average value (variation coefficient Austria 9.4 percent, Spain 11 percent, Italy and Poland 5 percent). In Poland – the only one of the new EU countries to make data available – the cash-flow ratio 2000 to 2008 was at approximately 8 percent. In 2008, it fell by 1 percentage point, as in most countries under comparison.

Cash flow and equity ratio in international comparison

The cash-flow ratio of the Austrian manufacturing sector was in 2008, at 11.2 percent, above the European average. It also developed more favourably than in the countries under comparison.

Table 4: International comparison of the cash-flow ratios in the manufacturing sector

	2000	2001	2002	2003	2004	2005	2006	2007	2008	Ø 2000-2008
	Cash flow as a percentage of sales									
9 EU countries										
Austria	14.0	13.2	12.1	11.5	10.9	11.0	12.7	13.3	11.2	12.2
Belgium	9.9	8.4	9.0	9.5	10.3	10.0	11.0	10.3	9.9	9.8
Spain	9.1	8.1	8.0	8.6	9.5	9.0	8.8	8.8	6.3	8.5
France	9.5	9.0	10.5	9.1	9.7	9.3	8.7	9.2	8.1	9.2
Germany	.	.	.	.	.	.	.	10.1	8.2	9.2[1]
Italy	8.6	8.4	8.3	8.2	8.3	8.1	8.2	8.3	7.1	8.2[1]
Netherlands	.	.	.	.	.	.	.	27.6	22.1	24.9
Portugal	11.4	10.4	10.7	10.6	10.9	10.5	9.0	9.1	8.5	10.1
Poland	8.6	8.4	8.3	8.2	8.3	8.1	8.2	8.3	7.1	8.2
Average value[2]	10.2	9.4	9.5	9.4	9.7	9.4	9.5	9.7	8.3	9.5
Median[2]	9.5	8.4	9.0	9.1	9.7	9.3	8.8	9.2	8.2	9.0
Japan	8.0	7.0	7.3	8.0	3.1	2.9	.	.	.	6.0[3]
USA	11.5	5.8	8.5	10.6	12.2	12.6	.	.	.	10.2[3]

Source: BACH database, WIFO calculations. – [1] Average 2007-08. – [2] Excluding the Netherlands. – [3] Average 2000-2005.

In 2008, the equity ratio of the Austrian manufacturing sector was 36.4 percent. It thus roughly corresponded to the average ratios of the eight European countries under comparison (except the Netherlands) of 36.3 percent. Also the average value of the period 2000 to 2008 hardly differed from the average ratios of the European countries under comparison (Austria 36.8 percent, the European countries under comparison 36.3 percent). Except for the outlier the Netherlands (57.4 percent) only Belgium (40.2 percent), Spain (40.0 percent), and Portugal (40.8 percent) had a considerably higher equity ratio in the period from 2000 to 2008 (Table 5).

At 36.4 percent the equity ratio of the Austrian manufacturing sector 2008 corresponded to the average of the European countries under comparison.

Table 5: International comparison of the equity ratio in the manufacturing sector

	2000	2001	2002	2003	2004	2005	2006	2007	2008	Ø 2000-2008
	Equity as a percentage of balance sheet totals									
9 EU countries										
Austria	37.7	35.8	36.2	36.0	35.1	37.2	38.5	38.7	36.4	36.8
Belgium	36.9	37.0	36.3	38.5	37.0	40.5	43.1	46.6	46.2	40.2
Spain	42.4	41.8	40.9	41.1	40.5	39.1	38.0	37.3	38.9	40.0
France	34.3	33.9	33.8	34.3	35.4	37.3	37.7	36.1	33.9	35.2
Germany	.	.	.	.	.	.	.	31.5	30.7	31.1[1]
Italy	29.4	29.3	30.0	29.9	31.1	31.5	31.7	31.6	34.0	31.0[1]
Netherlands	.	.	.	.	.	.	.	59.3	55.5	57.4
Portugal	41.7	41.9	42.9	43.8	43.3	44.1	37.0	36.4	36.0	40.8
Poland	29.4	29.3	30.0	29.9	31.1	31.5	31.7	31.6	34.0	31.0
Average value[2]	36.0	35.6	35.7	36.2	36.2	37.3	36.8	36.2	36.3	36.3
Median[2]	36.9	35.8	36.2	36.0	35.4	37.3	37.7	36.3	35.0	36.3
Japan	8.0	7.0	7.3	8.0	3.1	2.9	.	.	.	6.0[3]
USA	11.5	5.8	8.5	10.6	12.2	12.6	.	.	.	10.2[3]

Source: BACH database, WIFO calculations. – [1] Average 2007-2008. – [2] Excluding the Netherlands. – [3] Average 2000-2005.

The equity ratio is – more than the cash-flow ratio – a structural indicator. It is determined by the firm and industry specific capital intensity and risk. In international comparisons, moreover, the non-neutrality of the modes of financing is relevant. If bank financing together with the deductibility of the interest payments is associated with a lower cost of financing than equity capital, average financial structure in a country will be affected accordingly. The characteristics of the individual industries and the systems of corporate taxation are relatively stable over time. Therefore, the equity ratio over time fluctuates less than the cash-flow ratio (variation coefficient Austria 3.4 percent). The countries with significantly higher variation coefficients such

as Belgium (10.2 percent), and Portugal (8.2 percent) are characterised by a trend in the development of the equity ratio: in Belgium the equity ratio of the manufacturing sector between 2000 and 2008 rose from 36.9 percent to 46.2 percent, whereas it fell from 41.7 percent to 36 percent in Portugal.

These developments suggest that the equity ratio 2009 probably fluctuated less pronouncedly despite the decline of the cash-flow ratio: by countries, the correlation between cash-flow ratio and equity ratio in the period between 2000 and 2008 is, after controlling for country effects, positive if relatively weak.

The earning power of the entire manufacturing sector remained in Austria largely stable by international comparison. By industries, however, there is a considerable heterogeneity. In the period 2000-2008, the most profitable industries were those manufacture of computer, electronic and optical products (24.7 percent), the manufacture of basic pharmaceutical products and pharmaceutical preparations (18.5 percent), as well as the manufacturing (18.2 percent). The industries with the lowest cash-flow margins in that period were the manufacture of wearing apparel at only 3.8 percent followed by the manufacture of furniture (6.5 percent), and the manufacture of foods products (6.9 percent).

As the variation coefficient shows, the ratio varies considerably in the manufacture of computer, electronic and optical goods (variation coefficient 64 percent), other transport equipement (56 percent), as well as the manufacture of leather and related products (50 percent). In contrast thereto, the earnings for the manufacture of rubber and plastic products (5 percent) and the manufacture of fabricated metal products (8 percent) fluctuated only marginally.

Heterogeneity by industry

The cash-flow ratio, and, to a lesser extent also the equity ratio of the Austrian manufacturing sector varied significantly on average 2000 to 2008 by industries.

Table 6: Cash-flow ratio and equity ratio by industries in Austria

| | Cash-flow ratio | | Equity ratio | |
| | 2008 | Ø 2000-2008 | 2008 | Ø 2000-2008 |
	Cash flow as a percentage of sales	Variation coefficient	Equity as a percentage of balance sheet total	Variation coefficient
Manufacture of food products	6.2	6.9	9.93	39.9	39.6	2.50
Manufacture of beverages	11.5	16.0	20.42	49.0	39.4	20.22
Manufacture of textiles	6.8	8.1	16.66	32.4	34.5	6.24
Manufacture of wearing apparel	4.4	3.8	35.25	41.7	37.8	10.76
Manufacture of leather and related products	12.7	8.6	50.01	40.9	33.7	18.52
Manufacture of wood and products of wood and cork, except furniture	9.7	8.8	14.93	30.8	28.1	7.85
Manufacture of paper and paper products	13.8	16.2	20.03	48.2	44.7	8.75
Printing and reproduction of recorded media	12.8	11.6	21.41	61.0	33.2	54.57
Manufacture of chemicals and chemical products	9.8	11.2	30.65	37.2	37.7	8.25
Manufacture of basic pharmaceutical products and pharmaceutical preparations	16.5	18.5	18.96	25.8	37.0	21.67
Manufacture of rubber and plastic products	9.9	10.5	5.48	39.1	35.4	9.93
Manufacture of other non-metallic mineral products	16.2	16.0	21.53	42.1	36.2	13.06
Manufacture of basic metals	15.4	13.2	17.41	36.9	40.5	4.95
Manufacture of fabricated metal products, except machinery and equipment	10.0	11.5	7.58	37.2	37.4	6.78
Manufacture of computer, electronic and optical products	14.7	24.7	64.36	44.7	53.8	10.14
Manufacture of electrical equipment	14.4	13.7	11.15	33.5	32.5	7.56
Manufacture of machinery and equipment n.e.c.	12.4	11.2	12.45	32.8	32.3	2.96
Manufacture of motor vehicles, trailers and semi-trailers	9.3	9.8	19.92	34.1	31.2	13.07
Manufacture of other transport equipment	5.5	8.5	56.23	21.2	15.9	23.32
Manufacture of furniture	4.9	6.5	18.15	28.4	29.8	12.51
Other manufacturing	8.8	18.2	25.03	54.5	53.1	10.85
Repairs and installation of machinery and equipment	11.4	8.9	40.64	21.3	18.5	18.01
Manufacturing	11.2	12.2	9.41	38.6	36.4	5.20
Average by industries	10.8	11.9	24.46	37.8	35.5	13.29

Source: BACH database, WIFO calculations.

The equity ratio varied considerably less in the period 2000-2008. Whereas it was only 15.9 percent in the manufacture of other trasnport equipment, and in the industry repair and installation of machinery and equipment 18.5 percent, the equity in the industries manufacture of computer, electronic and optical products (53.8 percent), and the other manufacturing (53.1 percent) was markedly higher. The highest vari-

ability was found in the industries printing and reproduction of recorded media, ranking before the manufacture of other transport equipment and the manufacture of basic pharmaceutical products. Most industries showed a much less pronounced variability.

Like in the international comparison, the correlation between cash-flow ratio and equity ratio by industries, after controlling for industry fixed effects, is, at 0.32, not very high. By taking into account the limited margin of deviation of the equity ratio over time, it should have remained comparatively stable despite the sharp decline of the cash-flow ratio 2009.

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Development of the Cash Flow Margin 2009 Determined by the Economic Crisis

Cash Flow and Equity Ratio of the Austrian Manufacturing Sector – Summary

In 2009, the cash-flow-to-sales ratio in the Austrian manufacturing sector is expec-ted to have declined significantly. Already 2008 was marked by a modest drop to 11.2 percent. For 2009 econometric estimates based on a panel of NACE 2-digit industry data indicate a cash-flow-to-sales ratio of approximately 7.5 percent, equivalent to a reduction by a third over 2008. This can be explained by the im-pact of the crisis on the manufacturing sector which in 2009 experienced a real decline in value added by 11.7 percent and a decline in exports by 20 percent. Comparative international figures are available only up to 2008. They show a sta-ble development in the equity ratio up to 2008. The average financial structure of Austrian manufacturers should have remained stable in 2009, despite the signifi-cant reduction in earning power.